

San Juan Area, Puerto Rico: Detailed Soil Map Legend

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Construction Materials and Excavating

(The information in this report indicates the dominant soil condition but does not eliminate the need for onsite investigation)

Map symbol and soil name	Source for roadfill	Source for sand	Source for gravel	Source for topsoil	Shallow excavations
	Limitation	Limitation	Limitation	Limitation	Limitation
AaB: Aceitunas-----	Very limited ~low strength (very limited) ~shrink-swell (moderately limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~too clayey (very limited) ~too acid (limited)	Very limited ~too clayey (very limited) ~cutbanks cave (slightly limited)
AaC: Aceitunas-----	Very limited ~low strength (very limited) ~shrink-swell (moderately limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~too clayey (very limited) ~too acid (limited) ~slope (slightly limited)	Very limited ~too clayey (very limited) ~cutbanks cave (slightly limited) ~slope (slightly limited)
AbD: Aibonito-----	Very limited ~low strength (very limited) ~shrink-swell (moderately limited) ~slope (slightly limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~too clayey (very limited) ~slope (very limited) ~too acid (limited)	Very limited ~slope (very limited) ~too clayey (limited) ~cutbanks cave (slightly limited)
AbE: Aibonito-----	Very limited ~low strength (very limited) ~slope (very limited) ~shrink-swell (moderately limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~slope (very limited) ~too clayey (very limited) ~too acid (limited)	Very limited ~slope (very limited) ~too clayey (limited) ~cutbanks cave (slightly limited)

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Map symbol and soil name	Source for roadfill	Source for sand	Source for gravel	Source for topsoil	Shallow excavations
	Limitation	Limitation	Limitation	Limitation	Limitation
AmB: Almirante-----	Very limited ~low strength (very limited) ~shrink-swell (very limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~too clayey (very limited) ~too acid (limited)	Very limited ~too clayey (very limited) ~cutbanks cave (slightly limited)
AmC: Almirante-----	Very limited ~low strength (very limited) ~shrink-swell (very limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~too clayey (very limited) ~too acid (limited) ~slope (slightly limited)	Very limited ~too clayey (very limited) ~cutbanks cave (slightly limited) ~slope (slightly limited)
Ba: Bajura-----	Very limited ~shrink-swell (very limited) ~low strength (very limited) ~wetness (limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~too clayey (very limited) ~wetness (limited)	Very limited ~wetness (very limited) ~too clayey (limited) ~flooding (moderately limited)
BmB: Bayamon-----	Very limited ~low strength (very limited) ~shrink-swell (very limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~too clayey (very limited) ~too acid (slightly limited)	Very limited ~too clayey (very limited) ~cutbanks cave (slightly limited)
CaE: Caguabo-----	Very limited ~depth to bedrock (very limited) ~slope (very limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~depth to bedrock (very limited) ~slope (very limited) ~small stones (very limited)	Very limited ~hard bedrock <40" (very limited) ~slope (very limited) ~cutbanks cave (slightly limited)

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Map symbol and soil name	Source for roadfill	Source for sand	Source for gravel	Source for topsoil	Shallow excavations
	Limitation	Limitation	Limitation	Limitation	Limitation
CaF: Caguabo-----	Very limited ~slope (very limited) ~depth to bedrock (very limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~depth to bedrock (very limited) ~slope (very limited) ~small stones (very limited)	Very limited ~hard bedrock <40" (very limited) ~slope (very limited) ~cutbanks cave (slightly limited)
CbF: Caguabo-----	Very limited ~slope (very limited) ~depth to bedrock (very limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~depth to bedrock (very limited) ~slope (very limited) ~small stones (very limited)	Very limited ~hard bedrock <40" (very limited) ~slope (very limited) ~cutbanks cave (slightly limited)
Rock outcrop-----	Not rated	Not rated	Not rated	Not rated	Not rated
Ce: Candelero-----	Limited ~wetness (limited) ~low strength (slightly limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Limited ~wetness (limited) ~too sandy (moderately limited) ~too clayey (moderately limited)	Very limited ~wetness (very limited) ~cutbanks cave (slightly limited)
Cayagua-----	Very limited ~slope (very limited) ~low strength (very limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~slope (very limited)	Very limited ~slope (very limited)

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Map symbol and soil name	Source for roadfill	Source for sand	Source for gravel	Source for topsoil	Shallow excavations
	Limitation	Limitation	Limitation	Limitation	Limitation
CLC: Catalina-----	Very limited ~low strength (very limited) ~shrink-swell (moderately limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~too clayey (very limited) ~too acid (slightly limited) ~slope (slightly limited)	Very limited ~too clayey (very limited) ~cutbanks cave (slightly limited) ~slope (slightly limited)
Cn: Catano-----	Not limited	Probable source ~possible source (thickest layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~too sandy (very limited) ~excess lime (limited)	Very limited ~cutbanks cave (very limited)
Co: Cayagua-----	Very limited ~wetness (very limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~wetness (very limited) ~too sandy (limited) ~slope (slightly limited)	Very limited ~wetness (very limited) ~too clayey (moderately limited) ~cutbanks cave (slightly limited)
CrD2: Colinas-----	Very limited ~depth to bedrock (very limited) ~low strength (very limited) ~slope (slightly limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~depth to bedrock (very limited) ~excess lime (very limited) ~slope (very limited)	Very limited ~slope (very limited) ~soft bedrock <40" (limited) ~cutbanks cave (slightly limited)

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Map symbol and soil name	Source for roadfill	Source for sand	Source for gravel	Source for topsoil	Shallow excavations
	Limitation	Limitation	Limitation	Limitation	Limitation
CrE2: Colinas-----	Very limited ~depth to bedrock (very limited) ~slope (very limited) ~low strength (very limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~depth to bedrock (very limited) ~excess lime (very limited) ~slope (very limited)	Very limited ~slope (very limited) ~soft bedrock <40" (limited) ~cutbanks cave (slightly limited)
CrF2: Colinas-----	Very limited ~slope (very limited) ~depth to bedrock (very limited) ~low strength (very limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~depth to bedrock (very limited) ~excess lime (very limited) ~slope (very limited)	Very limited ~slope (very limited) ~soft bedrock <40" (limited) ~cutbanks cave (slightly limited)
Cs: Coloso-----	Very limited ~low strength (very limited) ~shrink-swell (moderately limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~too clayey (very limited)	Limited ~wetness (limited) ~flooding (moderately limited) ~too clayey (moderately limited)
CuE: Consumo-----	Very limited ~low strength (very limited) ~slope (very limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~slope (very limited) ~too clayey (limited) ~too acid (moderately limited)	Very limited ~slope (very limited) ~too clayey (limited) ~cutbanks cave (slightly limited)

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Map symbol and soil name	Source for roadfill	Source for sand	Source for gravel	Source for topsoil	Shallow excavations
	Limitation	Limitation	Limitation	Limitation	Limitation
CuF: Consumo-----	Very limited ~slope (very limited) ~low strength (very limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~slope (very limited) ~too clayey (limited) ~too acid (moderately limited)	Very limited ~slope (very limited) ~too clayey (limited) ~cutbanks cave (slightly limited)
CzC: Corozal-----	Very limited ~low strength (very limited) ~wetness (very limited) ~shrink-swell (slightly limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~too clayey (very limited) ~wetness (very limited) ~too acid (moderately limited)	Very limited ~wetness (very limited) ~too clayey (limited) ~cutbanks cave (slightly limited)
DaC: Daguey-----	Very limited ~low strength (very limited) ~shrink-swell (moderately limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~too clayey (very limited) ~too acid (slightly limited)	Very limited ~too clayey (very limited) ~cutbanks cave (slightly limited)
DaD: Daguey-----	Very limited ~low strength (very limited) ~shrink-swell (moderately limited) ~slope (slightly limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~too clayey (very limited) ~slope (very limited) ~too acid (slightly limited)	Very limited ~too clayey (very limited) ~slope (very limited) ~cutbanks cave (slightly limited)
DeF: Descalabrado-----	Very limited ~slope (very limited) ~depth to bedrock (very limited) ~shrink-swell (very limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~depth to bedrock (very limited) ~slope (very limited) ~small stones (very limited)	Very limited ~hard bedrock <40" (very limited) ~slope (very limited) ~too clayey (moderately limited)

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Map symbol and soil name	Source for roadfill	Source for sand	Source for gravel	Source for topsoil	Shallow excavations
	Limitation	Limitation	Limitation	Limitation	Limitation
DgF: Descalabrado-----	Very limited ~slope (very limited) ~depth to bedrock (very limited) ~shrink-swell (very limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~depth to bedrock (very limited) ~slope (very limited) ~small stones (very limited)	Very limited ~hard bedrock <40" (very limited) ~slope (very limited) ~too clayey (moderately limited)
Rock outcrop-----	Not rated	Not rated	Not rated	Not rated	Not rated
Dm: Dique-----	Very limited ~low strength (very limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Not limited	Moderately limited ~flooding (moderately limited) ~cutbanks cave (slightly limited)
Dr: Durados-----	Not limited	Possible source ~excess fines (thickest layer) ~possible source (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~too sandy (very limited) ~small stones (slightly limited)	Very limited ~cutbanks cave (very limited)
Es: Estacion-----	Not limited	Probable source ~excess fines (thickest layer)	Limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~too sandy (very limited) ~small stones (very limited) ~area reclaim (very limited)	Very limited ~cutbanks cave (very limited) ~flooding (moderately limited) ~too clayey (slightly limited)

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Map symbol and soil name	Source for roadfill	Source for sand	Source for gravel	Source for topsoil	Shallow excavations
	Limitation	Limitation	Limitation	Limitation	Limitation
GuF: Guayama-----	Very limited ~depth to bedrock (very limited) ~slope (very limited) ~low strength (very limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~depth to bedrock (very limited) ~slope (very limited) ~too clayey (limited)	Very limited ~hard bedrock <40" (very limited) ~slope (very limited) ~cutbanks cave (very limited)
Hm: Humacao-----	Very limited ~low strength (very limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Moderately limited ~too sandy (moderately limited) ~too clayey (moderately limited)	Slightly limited ~cutbanks cave (slightly limited)
HtE: Humatas-----	Very limited ~low strength (very limited) ~slope (very limited) ~shrink-swell (slightly limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~slope (very limited) ~too clayey (very limited) ~too acid (slightly limited)	Very limited ~slope (very limited) ~too clayey (very limited) ~cutbanks cave (slightly limited)
HtF: Humatas-----	Very limited ~slope (very limited) ~low strength (very limited) ~shrink-swell (slightly limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~slope (very limited) ~too clayey (very limited) ~too acid (slightly limited)	Very limited ~slope (very limited) ~too clayey (very limited) ~cutbanks cave (slightly limited)



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Map symbol and soil name	Source for roadfill	Source for sand	Source for gravel	Source for topsoil	Shallow excavations
	Limitation	Limitation	Limitation	Limitation	Limitation
HuF: Humatas-----	Very limited ~low strength (very limited) ~slope (very limited) ~shrink-swell (slightly limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~slope (very limited) ~too clayey (very limited) ~too acid (slightly limited)	Very limited ~slope (very limited) ~too clayey (very limited) ~cutbanks cave (slightly limited)
Rock outcrop-----	Not rated	Not rated	Not rated	Not rated	Not rated
Hy: Hydraquents-----	Very limited ~wetness (very limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~wetness (very limited) ~excess salts (very limited)	Very limited ~wetness (very limited) ~flooding (moderately limited)
JaE2: Jagueyes-----	Very limited ~slope (very limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~slope (very limited) ~too acid (limited) ~too clayey (moderately limited)	Very limited ~slope (very limited) ~cutbanks cave (slightly limited)
JnD2: Juncal-----	Very limited ~low strength (very limited) ~shrink-swell (very limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~too clayey (very limited) ~slope (limited)	Limited ~slope (limited) ~too clayey (moderately limited) ~cutbanks cave (slightly limited)

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Map symbol and soil name	Source for roadfill	Source for sand	Source for gravel	Source for topsoil	Shallow excavations
	Limitation	Limitation	Limitation	Limitation	Limitation
JuC: Juncos-----	Very limited ~shrink-swell (very limited) ~low strength (very limited) ~depth to bedrock (moderately limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~too clayey (very limited) ~depth to bedrock (slightly limited) ~slope (slightly limited)	Moderately limited ~too clayey (moderately limited) ~cutbanks cave (slightly limited) ~slope (slightly limited)
JuD: Juncos-----	Very limited ~shrink-swell (very limited) ~low strength (very limited) ~depth to bedrock (moderately limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~too clayey (very limited) ~slope (very limited) ~depth to bedrock (slightly limited)	Very limited ~slope (very limited) ~too clayey (moderately limited) ~cutbanks cave (slightly limited)
LaB: Lares-----	Very limited ~low strength (very limited) ~shrink-swell (moderately limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~too clayey (very limited) ~too acid (slightly limited)	Limited ~too clayey (limited) ~cutbanks cave (slightly limited)
LaC2: Lares-----	Very limited ~low strength (very limited) ~shrink-swell (moderately limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~too clayey (very limited) ~too acid (slightly limited) ~slope (slightly limited)	Limited ~too clayey (limited) ~cutbanks cave (slightly limited) ~slope (slightly limited)
LmE: Limones-----	Very limited ~low strength (very limited) ~slope (very limited) ~shrink-swell (slightly limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~slope (very limited) ~too clayey (very limited) ~too acid (limited)	Very limited ~slope (very limited) ~too clayey (limited) ~cutbanks cave (slightly limited)

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Map symbol and soil name	Source for roadfill	Source for sand	Source for gravel	Source for topsoil	Shallow excavations
	Limitation	Limitation	Limitation	Limitation	Limitation
LmF: Limonos-----	Very limited ~slope (very limited) ~low strength (very limited) ~shrink-swell (slightly limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~slope (very limited) ~too clayey (very limited) ~too acid (limited)	Very limited ~slope (very limited) ~too clayey (limited) ~cutbanks cave (slightly limited)
LoF2: Lirios-----	Very limited ~low strength (very limited) ~slope (very limited) ~shrink-swell (slightly limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~slope (very limited) ~too clayey (very limited) ~too acid (slightly limited)	Very limited ~slope (very limited) ~too clayey (limited) ~cutbanks cave (slightly limited)
LsE: Los guineos-----	Very limited ~low strength (very limited) ~slope (very limited) ~shrink-swell (moderately limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~slope (very limited) ~too clayey (very limited) ~too acid (limited)	Very limited ~slope (very limited) ~too clayey (limited) ~cutbanks cave (slightly limited)
LsF: Los guineos-----	Very limited ~slope (very limited) ~low strength (very limited) ~shrink-swell (moderately limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~slope (very limited) ~too clayey (very limited) ~too acid (limited)	Very limited ~slope (very limited) ~too clayey (limited) ~cutbanks cave (slightly limited)

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Construction Materials and Excavating--Continued

Map symbol and soil name	Source for roadfill	Source for sand	Source for gravel	Source for topsoil	Shallow excavations
	Limitation	Limitation	Limitation	Limitation	Limitation
MaA: Mabi-----	Very limited ~shrink-swell (very limited) ~low strength (very limited) ~wetness (slightly limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~too clayey (very limited) ~wetness (slightly limited)	Very limited ~wetness (very limited) ~too clayey (limited) ~cutbanks cave (slightly limited)
MaB: Mabi-----	Very limited ~shrink-swell (very limited) ~low strength (very limited) ~wetness (slightly limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~too clayey (very limited) ~wetness (slightly limited)	Very limited ~wetness (very limited) ~too clayey (limited) ~cutbanks cave (slightly limited)
MaC: Mabi-----	Very limited ~shrink-swell (very limited) ~low strength (very limited) ~wetness (slightly limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~too clayey (very limited) ~wetness (slightly limited) ~slope (slightly limited)	Very limited ~wetness (very limited) ~too clayey (limited) ~cutbanks cave (slightly limited)
Md: Made land-----	Not rated	Not rated	Not rated	Not rated	Not rated
MlF: Malaya-----	Very limited ~slope (very limited) ~depth to bedrock (very limited) ~low strength (very limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~depth to bedrock (very limited) ~slope (very limited) ~too clayey (very limited)	Very limited ~hard bedrock <40" (very limited) ~slope (very limited) ~too clayey (moderately limited)

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Map symbol and soil name	Source for roadfill	Source for sand	Source for gravel	Source for topsoil	Shallow excavations
	Limitation	Limitation	Limitation	Limitation	Limitation
MoF:					
Maricao-----	Very limited ~low strength (very limited) ~slope (very limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~slope (very limited) ~too clayey (very limited) ~too acid (limited)	Very limited ~slope (very limited) ~too clayey (limited) ~cutbanks cave (slightly limited)
Mp:					
Martin pena-----	Very limited ~low strength (very limited) ~wetness (very limited) ~shrink-swell (very limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~wetness (very limited) ~too clayey (very limited)	Very limited ~wetness (very limited) ~flooding (moderately limited) ~too clayey (moderately limited)
MsB:					
Matanzas-----	Very limited ~low strength (very limited) ~shrink-swell (very limited) ~depth to bedrock (moderately limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~too clayey (very limited)	Very limited ~too clayey (very limited) ~depth to bedrock (limited) ~cutbanks cave (slightly limited)
MtB:					
Montegrande-----	Very limited ~shrink-swell (very limited) ~low strength (very limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~area reclaim (very limited) ~too clayey (very limited)	Very limited ~cutbanks cave (very limited) ~too clayey (limited) ~wetness (limited)

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Map symbol and soil name	Source for roadfill	Source for sand	Source for gravel	Source for topsoil	Shallow excavations
	Limitation	Limitation	Limitation	Limitation	Limitation
MtC: Montegrando-----	Very limited ~shrink-swell (very limited) ~low strength (very limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~area reclaim (very limited) ~too clayey (very limited) ~slope (slightly limited)	Very limited ~cutbanks cave (very limited) ~too clayey (limited) ~wetness (limited)
MuF2: Morado-----	Very limited ~slope (very limited) ~low strength (very limited) ~depth to bedrock (very limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~slope (very limited) ~depth to bedrock (very limited) ~too clayey (limited)	Very limited ~slope (very limited) ~soft bedrock <40" (moderately limited) ~cutbanks cave (slightly limited)
MxD: Mucara-----	Very limited ~depth to bedrock (very limited) ~slope (slightly limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~depth to bedrock (very limited) ~slope (very limited)	Very limited ~slope (very limited) ~soft bedrock <40" (limited) ~too clayey (moderately limited)
MxE: Mucara-----	Very limited ~depth to bedrock (very limited) ~slope (very limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~depth to bedrock (very limited) ~slope (very limited)	Very limited ~slope (very limited) ~soft bedrock <40" (limited) ~too clayey (moderately limited)

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Construction Materials and Excavating--Continued

Map symbol and soil name	Source for roadfill	Source for sand	Source for gravel	Source for topsoil	Shallow excavations
	Limitation	Limitation	Limitation	Limitation	Limitation
MxF:					
Mucara-----	Very limited ~slope (very limited) ~depth to bedrock (very limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~depth to bedrock (very limited) ~slope (very limited)	Very limited ~slope (very limited) ~soft bedrock <40" (limited) ~too clayey (moderately limited)
NaD2:					
Naranjito-----	Very limited ~depth to bedrock (very limited) ~low strength (limited) ~slope (slightly limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~slope (very limited) ~depth to bedrock (limited) ~too clayey (limited)	Very limited ~slope (very limited) ~too clayey (moderately limited) ~cutbanks cave (slightly limited)
NaE2:					
Naranjito-----	Very limited ~depth to bedrock (very limited) ~slope (very limited) ~low strength (limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~slope (very limited) ~depth to bedrock (limited) ~too clayey (limited)	Very limited ~slope (very limited) ~too clayey (moderately limited) ~cutbanks cave (slightly limited)
NaF2:					
Naranjito-----	Very limited ~slope (very limited) ~depth to bedrock (very limited) ~low strength (limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~slope (very limited) ~depth to bedrock (limited) ~too clayey (limited)	Very limited ~slope (very limited) ~too clayey (moderately limited) ~cutbanks cave (slightly limited)

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Construction Materials and Excavating--Continued

Map symbol and soil name	Source for roadfill	Source for sand	Source for gravel	Source for topsoil	Shallow excavations
	Limitation	Limitation	Limitation	Limitation	Limitation
PaD: Pandura-----	Very limited ~depth to bedrock (very limited) ~slope (slightly limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~depth to bedrock (very limited) ~slope (very limited) ~too sandy (limited)	Very limited ~soft bedrock <20" (very limited) ~slope (very limited) ~cutbanks cave (slightly limited)
PaE: Pandura-----	Very limited ~depth to bedrock (very limited) ~slope (very limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~depth to bedrock (very limited) ~slope (very limited) ~too sandy (limited)	Very limited ~soft bedrock <20" (very limited) ~slope (very limited) ~cutbanks cave (slightly limited)
PaF: Pandura-----	Very limited ~slope (very limited) ~depth to bedrock (very limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~depth to bedrock (very limited) ~slope (very limited) ~too sandy (limited)	Very limited ~soft bedrock <20" (very limited) ~slope (very limited) ~cutbanks cave (slightly limited)
PeF: Pellejas-----	Very limited ~slope (very limited)	Possible source ~excess fines (thickest layer) ~possible source (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~slope (very limited) ~too sandy (limited) ~too acid (slightly limited)	Very limited ~slope (very limited) ~cutbanks cave (very limited) ~too clayey (slightly limited)



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Construction Materials and Excavating--Continued

Map symbol and soil name	Source for roadfill	Source for sand	Source for gravel	Source for topsoil	Shallow excavations
	Limitation	Limitation	Limitation	Limitation	Limitation
Re: Reilly-----	Not limited	Possible source ~excess fines (bottom layer) ~possible source (thickest layer)	Possible source ~possible source (thickest layer) ~possible source (bottom layer)	Very limited ~small stones (very limited) ~area reclaim (very limited)	Very limited ~cutbanks cave (very limited) ~wetness (limited) ~flooding (moderately limited)
RoB: Rio arriba-----	Very limited ~low strength (very limited) ~shrink-swell (very limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~too clayey (very limited)	Moderately limited ~too clayey (moderately limited) ~cutbanks cave (slightly limited)
RoC2: Rio arriba-----	Very limited ~low strength (very limited) ~shrink-swell (very limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~too clayey (very limited) ~slope (slightly limited)	Moderately limited ~too clayey (moderately limited) ~cutbanks cave (slightly limited) ~slope (slightly limited)
RpD2: Rio piedras-----	Very limited ~low strength (very limited) ~shrink-swell (moderately limited) ~slope (slightly limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~too clayey (very limited) ~slope (very limited) ~too acid (limited)	Very limited ~slope (very limited) ~too clayey (limited) ~cutbanks cave (slightly limited)
RpE2: Rio piedras-----	Very limited ~low strength (very limited) ~slope (very limited) ~shrink-swell (moderately limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~slope (very limited) ~too clayey (very limited) ~too acid (limited)	Very limited ~slope (very limited) ~too clayey (limited) ~cutbanks cave (slightly limited)

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Construction Materials and Excavating--Continued

Map symbol and soil name	Source for roadfill	Source for sand	Source for gravel	Source for topsoil	Shallow excavations
	Limitation	Limitation	Limitation	Limitation	Limitation
RpF2: Rio piedras-----	Very limited ~slope (very limited) ~low strength (very limited) ~shrink-swell (moderately limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~slope (very limited) ~too clayey (very limited) ~too acid (limited)	Very limited ~slope (very limited) ~too clayey (limited) ~cutbanks cave (slightly limited)
SaF: Sabana-----	Very limited ~slope (very limited) ~low strength (very limited) ~depth to bedrock (very limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~depth to bedrock (very limited) ~slope (very limited) ~too clayey (very limited)	Very limited ~hard bedrock <40" (very limited) ~slope (very limited) ~too clayey (moderately limited)
ScB: Sabana seca-----	Very limited ~low strength (very limited) ~shrink-swell (very limited) ~wetness (slightly limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~too clayey (very limited) ~too acid (limited) ~wetness (slightly limited)	Very limited ~too clayey (very limited) ~wetness (very limited) ~cutbanks cave (slightly limited)
Sm: Saladar-----	Very limited ~wetness (very limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~wetness (very limited)	Very limited ~wetness (very limited) ~flooding (moderately limited)

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Construction Materials and Excavating--Continued

Map symbol and soil name	Source for roadfill	Source for sand	Source for gravel	Source for topsoil	Shallow excavations
	Limitation	Limitation	Limitation	Limitation	Limitation
SoE: Soller-----	Very limited ~depth to bedrock (very limited) ~slope (very limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~depth to bedrock (very limited) ~slope (very limited) ~large stones (slightly limited)	Very limited ~hard bedrock <40" (very limited) ~slope (very limited) ~too clayey (limited)
SoF: Soller-----	Very limited ~slope (very limited) ~depth to bedrock (very limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~depth to bedrock (very limited) ~slope (very limited) ~large stones (slightly limited)	Very limited ~hard bedrock <40" (very limited) ~slope (very limited) ~too clayey (limited)
TaF: Tanama-----	Very limited ~low strength (very limited) ~depth to bedrock (very limited) ~slope (very limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~depth to bedrock (very limited) ~slope (very limited) ~too clayey (very limited)	Very limited ~hard bedrock <40" (very limited) ~slope (very limited) ~too clayey (limited)
Rock outcrop-----	Not rated	Not rated	Not rated	Not rated	Not rated
To: Toa-----	Very limited ~low strength (very limited) ~shrink-swell (moderately limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~too clayey (very limited)	Moderately limited ~flooding (moderately limited) ~too clayey (moderately limited) ~cutbanks cave (slightly limited)

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Construction Materials and Excavating--Continued

Map symbol and soil name	Source for roadfill	Source for sand	Source for gravel	Source for topsoil	Shallow excavations
	Limitation	Limitation	Limitation	Limitation	Limitation
TrB: Torres-----	Very limited ~low strength (very limited) ~shrink-swell (slightly limited)	Possible source ~excess fines (bottom layer) ~possible source (thickest layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~too sandy (very limited) ~too acid (slightly limited)	Very limited ~cutbanks cave (very limited) ~too clayey (limited)
Ts: Tropopsamments-----	Limited ~wetness (limited)	Probable source	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~too sandy (very limited) ~wetness (limited)	Very limited ~cutbanks cave (very limited) ~wetness (very limited) ~flooding (moderately limited)
Ud: Urban land-----	Not rated	Not rated	Not rated	Not rated	Not rated
Durados-----	Not limited	Possible source ~excess fines (thickest layer) ~possible source (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~too sandy (very limited) ~small stones (slightly limited)	Very limited ~cutbanks cave (very limited)
Um: Urban land-----	Not rated	Not rated	Not rated	Not rated	Not rated
Mucara-----	Very limited ~depth to bedrock (very limited) ~slope (very limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~depth to bedrock (very limited) ~slope (very limited)	Very limited ~slope (very limited) ~soft bedrock <40" (limited) ~too clayey (moderately limited)
Us: Urban land-----	Not rated	Not rated	Not rated	Not rated	Not rated

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Map symbol and soil name	Source for roadfill	Source for sand	Source for gravel	Source for topsoil	Shallow excavations
	Limitation	Limitation	Limitation	Limitation	Limitation
Sabana seca-----	Very limited ~low strength (very limited) ~shrink-swell (very limited) ~wetness (slightly limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~too clayey (very limited) ~too acid (limited) ~wetness (slightly limited)	Very limited ~too clayey (very limited) ~wetness (very limited) ~cutbanks cave (slightly limited)
Uv: Urban land-----	Not rated	Not rated	Not rated	Not rated	Not rated
Vega alta-----	Very limited ~low strength (very limited) ~shrink-swell (moderately limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~too clayey (very limited) ~too acid (slightly limited)	Moderately limited ~too clayey (moderately limited) ~cutbanks cave (slightly limited)
VaB: Vega alta-----	Very limited ~low strength (very limited) ~shrink-swell (moderately limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~too clayey (very limited) ~too acid (slightly limited)	Moderately limited ~too clayey (moderately limited) ~cutbanks cave (slightly limited)
VaC2: Vega alta-----	Very limited ~low strength (very limited) ~shrink-swell (moderately limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~too clayey (very limited) ~too acid (slightly limited) ~slope (slightly limited)	Moderately limited ~too clayey (moderately limited) ~cutbanks cave (slightly limited) ~slope (slightly limited)

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Map symbol and soil name	Source for roadfill	Source for sand	Source for gravel	Source for topsoil	Shallow excavations
	Limitation	Limitation	Limitation	Limitation	Limitation
Vg: Vega baja-----	Very limited ~low strength (very limited) ~shrink-swell (limited) ~wetness (slightly limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Very limited ~too clayey (very limited) ~wetness (slightly limited)	Very limited ~wetness (very limited) ~flooding (moderately limited) ~too clayey (moderately limited)
VkC2: Via-----	Very limited ~low strength (very limited) ~shrink-swell (slightly limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Possible source ~excess fines (thickest layer) ~possible source (bottom layer)	Very limited ~area reclaim (very limited) ~too clayey (limited) ~slope (slightly limited)	Very limited ~cutbanks cave (very limited) ~too clayey (slightly limited) ~slope (slightly limited)
Vv: Vivi-----	Not limited	Possible source ~excess fines (thickest layer) ~possible source (bottom layer)	Very limited ~excess fines (bottom layer) ~excess fines (thickest layer)	Slightly limited ~too acid (slightly limited) ~too sandy (slightly limited)	Very limited ~cutbanks cave (very limited) ~flooding (moderately limited)
W: Water-----	Not rated	Not rated	Not rated	Not rated	Not rated
YeE: Yunes-----	Very limited ~depth to bedrock (very limited) ~slope (very limited) ~shrink-swell (moderately limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Possible source ~excess fines (bottom layer) ~possible source (thickest layer)	Very limited ~depth to bedrock (very limited) ~slope (very limited) ~small stones (very limited)	Very limited ~soft bedrock <20" (very limited) ~slope (very limited) ~cutbanks cave (slightly limited)

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Map symbol and soil name	Source for roadfill	Source for sand	Source for gravel	Source for topsoil	Shallow excavations
	Limitation	Limitation	Limitation	Limitation	Limitation
YeF: Yunes-----	Very limited ~slope (very limited) ~depth to bedrock (very limited) ~shrink-swell (moderately limited)	Very limited ~excess fines (thickest layer) ~excess fines (bottom layer)	Possible source ~excess fines (bottom layer) ~possible source (thickest layer)	Very limited ~depth to bedrock (very limited) ~slope (very limited) ~small stones (very limited)	Very limited ~soft bedrock <20" (very limited) ~slope (very limited) ~cutbanks cave (slightly limited)